Referee #1

General: The paper is generally well written and presents a new alternative for combining faults and zones in a PSHA evaluation. The language is generally acceptable, but here and there the Spanish “accent” is coming through, and sometimes wrong wording is used. A thorough “language washing” by a native English-speaker is needed before publication.

On Mmax: This review is concerned with using the catalogue only up to Mmax recorded in the catalogue. What about blind faults that are not mapped and may trigger larger magnitudes away from the mapped faults. The authors should be more clear about this situation. This issue is exemplified in Fig. 6 where the Granada and Almeria hazard is so widely different from the zonation based hazard map. Fig. 6 should also be expanded with 1 Hz hazard difference in which the difference between methiods could be even higher.

On Mmax: After reading I am still somewhat uncertain how MmaxC and Mmax relate.

The authors should make some additional effort in clarifying the different Mmax used for faults and areas. May be use more clear annotations Mmax(fault)= MmaxF;

Mmax(zone)=MmaxZ and Mmin correspondingly.

On Mmax: May be I have overlooked, but how is Mmax established quantitatively from the catalogue?

QAFI database not defined/referenced.

Fig. 6 and 8: What is the Mmax used in the reference model? Due to the big differences it is important to be very clear about the reference computation. The implications in an application is significant.

Thank you for your comments and remarks.

MmaxC refers to the maximum magnitude value that can be recorded in the catalog completely. This means that the catalog may contain events with higher magnitude value, but due to the long recurrence of these events, it can not be assured that the period of records covered by the catalog includes several recurrence periods of these events to make it possible to derive an (statistically) meaningful recurrence period value. The MmaxC value is used to constraint the distribution of seismic potential between faults and zones, but not to estimate seismic hazard.

The maximum expected magnitudes for each source are included in seismic hazard assessment. For fault sources, the maximum magnitude is obtained from the length of the fault plane. For zones (that contain the seismicity related to blind faults) it is more difficult to establish the maximum magnitude value, as it depends on the study area. It the application shown in this work, it is considered Mmaxzone=MmaxC+0.5. For our study area this implies a Mmaxzone value of up to 6.5. This is considered sufficient due to the short record of events with that magnitude in the catalog.

The term Mmax is changed, distinguishing the different Mmax used for zones and fautls: Mmax(zone) and Mmax(fault)

We only show the seismic hazard maps expressed in terms of PGA. The hazard maps for different spectral ordinates are not shown to reduce the length of the paper and because they do not display significant differences. Nevertheless, we include the response spectra for selected locations in figure 10.

The case of Almeria and Granada, high acceleration values obtained with the HM are associated with documented faults, nearby these cities. The Mmax value for these faults is derived from the fault length ,

In the CM, the maximum magnitudes for each zone are modelled using a magnitude distribution that considers the maximum recorded magnitudes in the catalog and the maximum magnitudes expected in the faults (see details in Gaspar-Escribano et al., 2015).

We make an effort to clarify these points in the text. We also include a new figure with the UHS spectra obtained for different cities (Granada, Almeria and Murcia) with both methods to show the impact of the source model in different spectral accelerations.

Several references are included (including one to QAFI).